UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
OSB2001-00040-FEC

July 27, 2001

Mr. Fred P. Patron
Senior Transportation Planning Engineer
Federal Highway Administration, Oregon Division
530 Center Street NE
Salem, OR 97301

Re: Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Act Essential Fish Habitat Consultation for the Wheatland Ferry West Boarding Ramp Replacement Project, Yamhill County, Oregon

Dear Mr. Patron:

Enclosed is a biological opinion (Opinion) prepared by the National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act (ESA) on the effects of the proposed Wheatland Ferry West Boarding Ramp Replacement Project, Yamhill County, Oregon. In this Opinion, NMFS concluded that the proposed action is not likely to jeopardize the continued existence of ESA-listed Upper Willamette River (UWR) steelhead *(Oncorhynchus mykiss)* and UWR chinook salmon *(Oncorhynchus tshawytscha),* or destroy or adversely modify designated critical habitats. As required by section 7 of the ESA, NMFS included reasonable and prudent measures with nondiscretionary terms and conditions that NMFS believes are necessary to minimize the impact of incidental take associated with this action.

This Opinion also serves as consultation on Essential Fish Habitat pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and implementing regulations at 50 CFR Part 600.

If you have any questions regarding this letter, please contact Molly Cary at 503.231.6892 or Ben Meyer at 503.230.5425 of my staff in the Oregon Habitat Branch.

Sincerely,

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Donna Darm
Acting Regional Administrator

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File Log #: 8910
OSB § 7 #: OSB2001-0040-FEC
Nat. § 7 #: F\NWR\2001\00548
EFH Logged?: yes

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Endangered Species Act - Section 7 Consultation and Magnuson-Stevens Act Essential Fish Habitat Consultation

BIOLOGICAL OPINION

Wheatland Ferry West Boarding Ramp Replacement Project, Yamhill County, Oregon

Agency: Federal Highway Administration

Consultation Conducted By: National Marine Fisheries Service, Northwest Region

Date Issued: July 27, 2001

Refer to: OSB2001-0040-FEC

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1. ENDANGERED SPECIES ACT

1.1 Background

On February 12, 2001, the National Marine Fisheries Service (NMFS) received a biological assessment (BA) and a request from the Federal Highway Administration (FHWA) for Endangered Species Act (ESA) section 7 formal consultation for the Wheatland Ferry West Boarding Ramp Replacement Project. The project will replace the existing deteriorating concrete ramp with a wider concrete ramp to accommodate a new ferry with increased capacity. The project is on the west bank of the Willamette River at River Mile 72 in Yamhill County, Oregon. The project applicant is Yamhill County (County). This biological opinion (Opinion) is based on the information presented in the BA and the result of the consultation process.

The FHWA has determined that Upper Willamette River (UWR) steelhead (*Oncorhynchus mykiss*) and UWR chinook salmon *(O. tshawytscha)* may occur within the project area. The UWR steelhead was listed by the NMFS as threatened under the ESA on March 25, 1999 (64 FR 14517). NMFS designated critical habitat for this species on February 16, 2000 (65 FR 7764). UWR chinook salmon was listed as threatened under the ESA on March 24, 1999 (64 FR 14308), critical habitat was designated February 16, 2000 (65 FR 7764) and protective regulations were issued on July 10, 2000 (65 FR 42422). Critical habitat for listed steelhead includes all accessible river reaches and estuarine areas from the mouth of the Columbia River upstream to and including the Upper Willamette River Basin. Critical habitat for chinook salmon includes all river reaches accessible in the Clackamas River and the Willamette River and its tributaries above Willamette Falls. The FHWA, using methods described in *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996), determined that the proposed action is likely to adversely affect UWR steelhead and chinook salmon.

This Opinion is based on the information presented in the BA and developed through correspondence and meetings to obtain additional information and clarify the BA. The objective of this Opinion is to determine whether the proposed action is likely to jeopardize the continued existence of the UWR steelhead or chinook salmon, or destroy or adversely modify critical habitats. This consultation is undertaken under section 7(a)(2) of the ESA, and its implementing regulations, 50 CFR Part 402.

1.2 Proposed Action

This project is designed to replace the west boarding ramp for the Wheatland Ferry on the Willamette River. The existing boarding ramp has deteriorated from years of use and pieces of concrete have broken away from the bottom section of the ramp, leaving rebar exposed below the waterline. Additionally, the existing ferry which carries six cars will be replaced by a wider one, which can carry nine cars. A wider ramp is needed to accommodate the wider ferry.

The existing concrete ramp is about 16-feet wide and 164.4-feet long. The new ramp will be 26-feet wide and 164.4-feet long and built in the same location as the existing ramp. Approximately 56-feet of approach roadway will be reconstructed and widened at a 15:1 taper to meet the new ramp. This facility has no docks or piers. No temporary ramp or work bridges will be needed to complete construction. The existing ramp is bordered by a 5-foot strip of riprap on either side to protect it from the erosive forces of the river. The new ramp will also be protected with riprap. The amount of riprap along the ramp will remain the same. Planting trees or shrubs in the riprap was explored. However, according to Yamhill County, any vegetation within 10-feet of the ramp and taller than 2-feet would interfere with operations of the ferry during higher flow events, when the vegetation would be submerged.

Construction of the new ramp will require a riprap toe below the water surface. The toe will extend 6-feet downward from the surface of the ramp. A cofferdam will be used to isolate the work area when building the toe. Fish will be removed from the area by an approved biologist before dewatering. A total of approximately 43-cubic yards of riprap will be used to build the toe. About 2.6 cubic yards of river cobbles will be pulled back over the riprap to restore the existing substrate condition.

Two existing wooden utility poles and associated guy wire supports will be removed and replaced with new steel poles and guy wires in approximately the same locations. The poles support cables that supply electricity to the ferry. The guy wires and the poles will be anchored with concrete foundations. Poles and guy wire foundations will be placed above the 2-year flood elevation. No riparian vegetation will be removed for their installation.

Construction staging is likely to occur in a gravel parking lot next to Wheatland Road, above the 2-year flood elevation.

Except for two cottonwood trees near the ramp, the existing ramp and adjacent shoreline are largely void of vegetation. Measures will be taken to preserve the two cottonwood trees during construction. The project will not remove trees or shrubs that provide shade and cover along the river. Planting will occur between the top of bank and the ordinary high water mark in an area south of the ramp. Approximately 484 square feet will be planted with native trees and shrubs to improve riparian habitat. Riprap located above the ordinary high water mark will be covered with topsoil and planted with native grasses. Any additional disturbed areas will be revegetated with native grasses.

All work activities below the 2-year flood elevation will occur during the standard in-water work timing guideline of June 1 through September 30.

The Wheatland Ferry West Boarding Ramp Replacement Project includes a list of conservation measures designed to minimize take of listed species and avoid or minimize any adverse effects of the project. These measures are described on pages 16-20 of the project BA, dated January 24, 2001. Specific measures for in-water work, erosion and sediment control, planting, excavation, hazardous materials handling, and site-specific conservation and habitat remediation

measures are included. The NMFS regards these measures as integral components of the project and considers them part of the proposed action.

1.3 Biological Information and Critical Habitat

The NMFS listed UWR steelhead on March 25, 1999 (64 FR 14517) and UWR chinook salmon on March 24, 1999 (64 FR 14308), as threatened under the ESA. Protective regulations were adopted under section 4(d) of the ESA on July 10, 2000 (65 FR 42422). NMFS designated critical habitat for both species on February 16, 2000 (65 FR 7764). The designation includes all waterways, substrates, and adjacent riparian zones below longstanding, naturally impassable barriers. The adjacent riparian zone is defined based on essential riparian functions. These functions are shade, sediment, nutrient/chemical regulation, streambank stability, and input of large woody debris/organic matter.

Adult steelhead are likely to migrate through the project area from November through mid-May, with the peak occurring in March or April. Steelhead juveniles typically complete their migration through the project area by June 1. Adult spring chinook salmon migrate through the project area from early April through the end of May. Some juvenile rearing may take place in the project area from mid-February through April. Typically juvenile chinook salmon have migrated out of the project area by June 1.

1.4 Evaluating Proposed Actions

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). NMFS must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical habitats. This analysis involves the: (1) Definition of the biological requirements and current status of the listed species; and (2) evaluation of the relevance of the environmental baseline to the species' current status.

Subsequently, NMFS evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NMFS must consider the estimated level of mortality attributable to: (1) Collective effects of the proposed or continuing action; (2) the environmental baseline; and (3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmonid's life stages that occur beyond the action area. If NMFS finds that the action is likely to jeopardize the listed species, NMFS must identify reasonable and prudent alternatives for the action.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' designated critical habitat. The NMFS must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. The NMFS identifies those effects of the action that impair the function of any essential element of critical habitat. The NMFS then considers whether such

impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the action will destroy or adversely modify critical habitat, it must identify any reasonable and prudent alternatives available.

For the proposed action, NMFS' jeopardy analysis considers direct and indirect mortality of fish attributable to the action. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential biological elements necessary for juvenile and adult migration, and juvenile rearing of UWR steelhead and chinook salmon.

1.4.1 Biological Requirements

The first step in the methods NMFS uses for applying the ESA section 7(a)(2) to listed fish is to define the species' biological requirements that are most relevant to each consultation. NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NMFS starts with the determinations made in its decision to list UWR steelhead and chinook salmon for ESA protection and also considers new available data that is relevant to the determination (Busby et al. 1996 and Myers et al. 1998).

The relevant biological requirements are those necessary for UWR steelhead and chinook salmon to survive and recover to naturally reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful migration and rearing. The current status of the UWR steelhead and chinook salmon, based upon their risk of extinction, has not significantly improved since the species were listed. Although escapement of wild winter steelhead over Willamette Falls into the Upper Willamette Basin slightly increased in 2000 and 2001, the longer-term trend is a decline over time. Specific escapement goals for this section of the Willamette River have not been set.

1.4.2 Environmental Baseline

The current range-wide status of the identified ESUs may be found in Busby et al. (1996) and Myers et al. (1998). The identified action will occur within the range of UWR steelhead and chinook. The action area is defined as the area that is directly and indirectly affected by the action. The direct effects occur at the project site and may extend upstream or downstream based on the potential for impairing fish passage, hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect effects may occur throughout the watershed where actions described in this Opinion lead to additional activities or affect ecological functions contributing to stream degradation. As such, the action area for the proposed activities include the immediate watershed where the ramp will be replaced, and those

areas upstream and downstream that may reasonably be affected, temporarily or in the long term. For the purposes of this Opinion, the action area is defined as the streambed and streambank of the mainstem of the Willamette River extending upstream and downstream to the edges of disturbance. Other areas of the Willamette River watershed are not expected to be directly impacted.

About 70% of Oregon's population lives within 20 miles of the Willamette River. Land use by area is 62% forestry, 21% agricultural, 11% mixed farm and forest, and 6% urban. Flood-control reservoirs and associated structures on tributaries to the Willamette River reduce peak flows in the mainstem and augment summer low flows. This affects habitat by reducing the periodic flooding necessary to maintain side channels, sloughs, floodplain areas, wetlands, and riparian areas. The primary impediment to fish passage on the mainstem is Willamette Falls, in Oregon City. Historically, the Willamette Falls was passable to migratory fish only during high flow periods. This section of the Willamette River is on the Oregon Department of Environmental Quality (ODEQ) 1998 303(d) list of water quality limited streams. Parameters failing to meet ODEQ standards include biological criteria, summer temperature, toxics, and bacteria.

Based on the best available information regarding the current status of UWR steelhead and chinook salmon range-wide; the population status, trends, and genetics; and the poor environmental baseline conditions within the action area; NMFS concludes that the biological requirements of UWR steelhead and chinook salmon within the action area are not currently being met. The Willamette River has degraded habitat resulting from agriculture practices, draining and filling of wetlands, forestry practices, road building, residential construction and bank armoring. The water quality, large woody debris; off-channel areas; pool frequency and quality; channel conditions; hydrology; watershed conditions; and refugia habitat indicators are not properly functioning or are at risk within the action area because of the chronic habitat degradation influences of altered hydrology, changes in land use and development within the basin. Actions that do not maintain or restore properly functioning aquatic habitat conditions would be likely to jeopardize the continued existence of UWR steelhead and chinook salmon.

1.5 Analysis of Effects

1.5.1 Effects of Proposed Action

The effects determination in this Opinion was made using a method for evaluating current aquatic conditions, the environmental baseline, and predicting effects of actions on them. This process is described in the document *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). The effects of actions are expressed in terms of the expected effect – restore, maintain, or degrade – on aquatic habitat factors in the project area.

The proposed action has the potential to cause the following impacts to UWR steelhead and chinook salmon:

1. The action area is largely void of vegetation. The river bank consists of riprap and cobbles in the area covered by the widened ramp. Vegetation consists of some grasses but no trees or shrubs. Widening the ramp will not change the overall habitat conditions.

2. Planting native trees and shrubs and revegetating disturbed areas with native grasses may improve riparian conditions at the site by contributing to shade, organic debris, bank stability, and eventually large woody debris recruitment.

3. During construction, turbidity and sedimentation may adversely affect fish in the mainstem Willamette River. Any in-water work has the potential to cause erosion from the streambank and turbidity in the river. Turbidity, at moderate levels, has the potential to adversely affect primary and secondary productivity, and at high levels, has the potential to injure and kill adult and juvenile fish, and may also interfere with feeding (Spence *et al.* 1996). Behavioral effects on fish, such as gill flaring and feeding changes, have been observed in response to pulses of suspended sediment. Localized increases of erosion/turbidity during in-water work could displace fish in the project area and disrupt normal behavior. These effects are expected to be temporary or nonexistent and localized, depending on occupancy during construction (occurring during work isolation, fish salvage, excavation, and riprap placement) and lasting until work is complete and any disturbed areas are stabilized.

4. A larger ferry may attract predatory fish due to the increase in shade it provides. However, it is unlikely that significant predation occurs now due to the lack of favorable conditions for predatory species. Typical current speed near the Wheatland Ferry is 2.9 feet per second (Tetra Tech, 1993). Thus, it is unlikely that a larger ferry will result in more than a negligible level of predation.

The negative effects of these activities on UWR steelhead and chinook salmon and riparian and aquatic habitats will be avoided or minimized by carrying out construction methods and approaches, included in the project design and in the conservation measures. These include:

1. All in-water work will be done during the preferred in-water work period between June 1 and September 30. Exceptions to this work timing will be carried out only after consultation with a NMFS biologist.

2. A coffer dam will be constructed to isolate the work area during removal and construction of the boat ramp, and excavation and building of the toe support structure.

3. Fish salvage will occur from within the isolated work area if listed salmonids are present during construction.

4. An area along the south side of the new ramp will be planted with native trees and shrubs in order to improve the habitat of the riparian shoreline. Also two mature cottonwood trees located at the top of the boarding ramp will be preserved.

1.5.2 Effects on Critical Habitat

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat for UWR steelhead and chinook salmon consists of all waterways below naturally impassable barriers including the project area. The adjacent riparian zone is also included in the designation. This zone is defined as the area that provides the following functions: shade, sediment, nutrient or chemical regulation, streambank stability, and input of large woody debris or organic matter.

The proposed actions will affect habitat that is already very degraded. In the short term, temporary increases of sediments and turbidity and disturbance of riparian habitat is expected. The NMFS does not expect the action will diminish the value of the habitat for survival and recovery of UWR steelhead and chinook salmon.

1.5.3 Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The action area has been defined as upstream to the edge of disturbance extending downstream the edge of disturbance on the Willamette River. A wide variety of actions occur within the Willamette River watershed, within which the action area is located.

Non-federal activities within the action area are expected to increase with a projected 34 percent increase in human population over the next 25 years in Oregon (Oregon Department of Administrative Services 1999). Thus, NMFS assumes that future private and State actions will continue within the action area, but at increasingly higher levels as population density climbs.

1.6 Conclusion

After reviewing the current status of UWR steelhead and chinook, the environmental baseline for the action area, the effects of the proposed replacement of the Wheatland Ferry West Boarding Ramp, and the cumulative effects, it is the NMFS' opinion that this project, as proposed, is not likely to jeopardize the continued existence of the UWR steelhead or chinook salmon, and is not likely to destroy or adversely modify designated critical habitat. NMFS applied its evaluation methodology (NMFS 1996) to the proposed action and found that it would cause minor, short-term degradation of anadromous salmonid habitat due to sediment/turbidity impacts. Also, there will be long-term benefits to UWR steelhead and chinook salmon from planting trees that will enhance riparian habitat and help stabilize the bank. This conclusion is based on findings that the proposed action will minimize death or injury to UWR steelhead and chinook salmon by

isolating the work area, salvaging any listed salmonids present, covering the riprap with cobbles to restore pre-existing conditions, and planting the stream bank.

The planting activities will increase the likelihood of returning riparian function at the site. The disturbed riparian area is within the critical habitat for UW steelhead and chinook. It will take at least five years of vegetation growth before function begins to return. Covering the riprap with river-cobble sized to match site conditions will help restore the area to preconstruction conditions. The effect of these actions will be to maintain or improve properly functioning riparian and aquatic habitats in the long term.

1.7 Reinitiation of Consultation

This concludes formal consultation on the Wheatland Ferry West Boarding Ramp Replacement Project. As provided in 50 CFR 402.16, re-initiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained or is authorized by law and if: 1) The amount or extent of incidental take is exceeded; 2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this Opinion; 3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this Opinion; or 4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of authorized incidental take is exceeded, any operations causing such take must cease pending re-initiation of consultation.

2. INCIDENTAL TAKE STATEMENT

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

2.1 Amount or Extent of the Take

The NMFS anticipates that the action covered by this Opinion has more than a negligible likelihood of resulting in incidental take of UWR steelhead and chinook salmon because of detrimental effects from sediment pulses (non-lethal) and the slight possibility of juvenile presence at the project site during in-water work. NMFS expects the possibility exists for incidental take of up to 20 juvenile UWR steelhead or chinook salmon from the salvage action covered by this Opinion. Based on the best scientific and commercial data available, take resulting from the effects of other project actions covered by this Opinion is largely unquantifiable in the shortterm and not expected to be measurable in the longterm. The extent of the take is limited to UWR steelhead and chinook salmon in the Willamette River and to the associated riparian and aquatic habitats in the project area. The action area includes the streambed and streambank of the Willamette, extending upstream to the edge of disturbance, and extending downstream to the edge of disturbance.

2.2 Reasonable and Prudent Measures

The measures described below are non-discretionary. They must be implemented so that they become binding conditions in order for the exemption in section 7(a)(2) to apply. The FHWA has the continuing duty to regulate the activities covered in this incidental take statement. If the FHWA fails to require the County to adhere to the terms and conditions of the incidental take statement through enforceable terms added to the document authorizing this action, or fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimize the likelihood of take of listed fish resulting from implementation of this Opinion. These reasonable and prudent measures would also minimize adverse effects to designated critical habitat.

The FHWA shall:

1. Minimize the likelihood of incidental take by timing the completion of all in-water work as necessary to avoid harming vulnerable salmonid life stages, including spawning, migration and rearing.

2. Minimize the likelihood of incidental take from in-water work by ensuring that the in-water work area is isolated from flowing water.

3. Minimize the likelihood of incidental take from salvage efforts by following proper fish handling methods.

4. Carry out a comprehensive monitoring and reporting program to ensure this Opinion is meeting its objective of minimizing the likelihood of take from permitted activities.

2.3 Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the FHWA must comply with the following terms and conditions, which implement the reasonable and prudent measures described above for each category of activity. These terms and conditions are non-discretionary.

1. To implement Reasonable and Prudent Measure #1 (in-water timing) above, the FHWA shall ensure that:

    a. All work within the active channel that could potentially contribute sediment or toxicants to downstream fish-bearing systems will be completed within the ODFW approved in-water work period.[1]

    b. Extensions of the in-water work period, including those for work outside the wetted perimeter of the stream but below the ordinary high water mark must be approved by a NMFS biologist.

2. To implement Reasonable and Prudent Measure #2 (isolation of in-water work area) the FHWA shall ensure that during toe construction, excavation, and placement of riprap, the work area is well isolated from the active flowing stream within a cofferdam or similar structure (made out of sandbags, sheet pilings, inflatable bags, or etc.), to maximize the potential for sediment entrainment.

3. To implement Reasonable and Prudent Measure #3 (proper fish handling methods) the FHWA shall ensure that fish capture using electrofishing or seining shall comply with the following methods:

    a. If the fish salvaging aspect of this project requires the use of seine equipment to capture fish, it must be accomplished as follows:

        i. Before and intermittently during pumping, attempts will be made to seine and release fish from the work isolation area as is prudent to minimize risk of injury.

        ii. Seining will be conducted by, or under the supervision of a fishery biologist experienced in such efforts. Staff working with the seining operation must have the necessary knowledge, skills, and abilities to ensure the safe handling of all ESA-listed fish.

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[1] Oregon Department of Fish and Wildlife, *Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources*, 12 pp (June 2000)(identifying work periods with the least impact on fish) (http://www.dfw.state.or.us/ODFWhtml/InfoCntrHbt/0600_inwtrguide.pdf).

iii. ESA-listed fish must be handled with extreme care and kept in water to the maximum extent possible during seining and transfer procedures. The transfer of ESA-listed fish must be conducted using a sanctuary net that holds water during transfer, whenever necessary to prevent the added stress of an out-of-water transfer.

iv. Seined fish must be released as near as possible to capture sites.

v. If a dead, injured, or sick listed species specimen is found, initial notification must be made to the National Marine Fisheries Service Law Enforcement Office, in the Vancouver Field Office, 600 Maritime, Suite 130, Vancouver, Washington 98661; phone: 360/418-4246. Care should be taken in handling sick or injured specimens to ensure effective treatment and care. Dead specimens should be handled so as to preserve biological material in the best possible state for later analysis of cause of death. With the care of sick or injured listed species or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not disturbed.

vi. The transfer of any ESA-listed fish from the ODOT to third parties other than NMFS personnel requires written approval from the NMFS.

vii. The ODOT must obtain any other Federal, state, and local permits and authorizations necessary for the conduct of the seining activities.

viii. The ODOT must allow the NMFS or its designated representative to accompany field personnel during the seining activity, and allow such representative to inspect the ODOT's seining records and facilities.

ix. A description of any seine and release effort will be included in a post project report, including the name and address of the supervisory fish biologist, methods used to isolate the work area and minimize disturbances to ESA-listed species, stream conditions before and following placement and removal of barriers; the means of fish removal; the number of fish removed by species; the condition of all fish released, and any incidence of observed injury or mortality.

b. If the fish salvaging aspect of this project requires the use of electrofishing equipment to capture fish, it must be accomplished as follows (NMFS 1998):

i. Electrofishing may not occur in the vicinity of listed adults in spawning condition or in the vicinity of redds containing eggs.

ii. Equipment must be in good working condition. Operators must go through the manufacturer's preseason checks, adhere to all provisions, and record major maintenance work in a log.

iii. A crew leader having at least 100 hours of electrofishing experience in the field using similar equipment must train the crew. The crew leader's experience must be documented and available for confirmation; such documentation may be in the form of a logbook. The training must occur before an inexperienced crew begins any electrofishing; it must also be conducted in waters that do not contain listed fish.

iv. Measure conductivity and set voltage as follows:

Conductivity (umhos/cm)	Voltage
Less than 100	900 to 1100
100 to 300	500 to 800
Greater than 300	150 to 400

v. Direct current (DC) must be used at all times.

vi. Each session must begin with pulse width and rate set to the minimum needed to capture fish. These settings should be gradually increased only to the point where fish are immobilized and captured. Start with pulse width of 500us and do not exceed 5 milliseconds. Pulse rate should start at 30Hz and work carefully upwards. *In general*, pulse rate should not exceed 40 Hz, to avoid unnecessary injury to the fish.

vii. The zone of potential fish injury is 0.5m from the anode. Care should be taken in shallow waters, undercut banks, or where fish can be concentrated because in such areas the fish are more likely to come into close contact with the anode.

viii. The monitoring area must be worked systematically, moving the anode continuously in a herringbone pattern through the water. Do not electrofish one area for an extended period.

ix. Crew must carefully observe the condition of the sampled fish. Dark bands on the body and longer recovery times are signs of injury or handling stress. When such signs are noted, the settings for the electrofishing unit may need adjusting. Sampling must be terminated if injuries occur or abnormally long recovery times persist.

x. Whenever possible, a block net must be placed below the area being sampled to capture stunned fish that may drift downstream.

xi. The electrofishing settings must be recorded in a logbook along with conductivity, temperature, and other variables affecting efficiency. These notes, together with observations on fish condition, will improve technique and form the basis for training new operators.

4. To implement Reasonable and Prudent Measure #4 (monitoring and reporting), above, the FHWA shall ensure that:

a. Within 30 days of completing the project, the County will submit a monitoring report to NMFS describing the County's success meeting their permit conditions. This report will consist of the following information.

i. Project identification.
(1) Project name
(2) starting and ending dates of work completed for this project; and
(3) FHWA contact person.
(4) Monitoring reports shall be submitted to:

National Marine Fisheries Service
Oregon Habitat Branch
Attn: OSB2001-0040
525 NE Oregon Street, Suite 500
Portland, Oregon 97232-2778

ii. Isolation of in-water work area. A report of any capture and release activity must include:
(1) The name and address of the supervising fish biologist;
(2) methods used to isolate the work area and minimize disturbances to ESA-listed species;
(3) stream conditions before and following placement and removal of barriers;
(4) the means of fish removal;
(5) the number of fish removed by species;
(6) the location and condition of all fish released; and
(7) any incidence of observed injury or mortality.

iii. Pollution and erosion control. Copies of all pollution and erosion control inspection reports, including descriptions of any failures experienced with erosion control measures, efforts made to correct them and a description of any accidental spills of hazardous materials.

iv. Site restoration. Documentation of the following conditions:
(1) Finished grade slopes and elevations.

(2) Log and rock structure elevations, orientation, and anchoring, if any.
(3) Planting composition and density.
(4) A plan to inspect and, if necessary, replace failed plants for five years.

v. A narrative assessment of the project's effects on natural stream function.

vi. Photographic documentation of environmental conditions at the project site and compensatory mitigation site(s) (if any) before, during and after project completion.

(1) Photographs will include general project location views and close-ups showing details of the project area and project, including pre- and post construction.
(2) Each photograph will be labeled with the date, time, photo point, project name, the name of the photographer, and a comment describing the photograph's subject.
(3) Relevant habitat conditions include characteristics of channels, streambanks, riparian vegetation, flows, water quality, and other visually discernable environmental conditions at the project area, and upstream and downstream of the project.

3. MAGNUSON-STEVENS ACT

3.1 Background

The objective of the Essential Fish Habitat (EFH) consultation is to determine whether the proposed action may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH resulting from the proposed action.

3.2 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-297), requires the inclusion of EFH descriptions in Federal fishery management plans. In addition, the MSA requires Federal agencies to consult with NMFS on activities that may adversely affect EFH.

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting the definition of essential fish habitat: 'Waters' include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where

appropriate; 'substrate' includes sediment, hard bottom, structures underlying the waters, and associated biological communities; 'necessary' means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle (50CFR600.110).

Section 305(b) of the MSA (16 U.S.C. 1855(b)) requires that:

- Federal agencies must consult with NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;
- NMFS shall provide conservation recommendations for any Federal or State activity that may adversely affect EFH;
- Federal agencies shall within 30 days after receiving conservation recommendations from NMFS provide a detailed response in writing to NMFS regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NMFS, the Federal agency shall explain its reasons for not following the recommendations.

The MSA requires consultation for all actions that may adversely affect EFH, and does not distinguish between actions within EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities, that may have an adverse effect on EFH. Therefore, EFH consultation with NMFS is required by Federal agencies undertaking, permitting or funding activities that may adversely affect EFH, regardless of its location.

3.3 Identification of EFH

The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon: chinook (*Oncorhynchus tshawytscha*); coho (*O. kisutch*); and Puget Sound pink salmon (*O. gorbuscha*)(PFMC 1999). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (i.e., natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the Pacific Coast Salmon Plan (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the proposed action is based on this information.

3.4 Proposed Actions

The proposed actions are detailed above in Section 1.2, Proposed Action. The action area includes the streambed and streambank of the mainstem of the Willamette River extending upstream and downstream to the edges of disturbance. This area has been designated as EFH for

various life stages of chinook salmon.

3.5 Effects of Proposed Action

As described in detail in Section 1.5, Analysis of Effects, the proposed activities may result in detrimental short- and long-term adverse effects to a variety of habitat parameters. These impacts include short-term impacts from increases in sedimentation and turbidity, and temporary alteration of aquatic habitat to isolate and dewater the construction area.

3.6 Conclusion

NMFS believes that the proposed action may adversely affect the EFH for chinook salmon.

3.7 EFH Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Act, NMFS is required to provide EFH conservation recommendations for any Federal or state agency action that would adversely affect EFH. The conservation measures proposed for the project by the FHWA/ODOT, all Conservation Recommendations outlined above in Section 1.51 and all of the Reasonable and Prudent Measures and the Terms and Conditions contained in Sections 2.2 and 2.3 are applicable to salmon EFH. Therefore, NMFS incorporates each of those measures here as EFH conservation recommendations.

3.8 Statutory Response Requirement

Please note that the Magnuson-Stevens Act (section 305(b)) and 50 CFR 600.920(j) requires the Federal agency to provide a written response to NMFS after receiving EFH conservation recommendations within 30 days of its receipt of this letter. This response must include a description of measures proposed by the agency to avoid, minimize, mitigate or offset the adverse impacts of the activity on EFH. If the response is inconsistent with a conservation recommendation from NMFS, the agency must explain its reasons for not following the recommendation.

3.9 Consultation Renewal

The FHWA/ODOT must reinitiate EFH consultation with NMFS if either action is substantially revised or new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR 600.920).

4. LITERATURE CITED

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this Opinion.

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